An Energy Efficiency Workshop & Exposition

Palm Springs, California

PARTNERSHIP CASE STUDIES

US POSTAL SERVICE (USPS)

Resource Efficiency Manager

Phyllis White, REM

INTRODUCTION

- USPS Southeast Area (SEA)
  - Tennessee
  - Georgia
  - Alabama
  - Mississippi
  - Florida
- ➢ 9 districts
- ➢ 3800 Facilities
- ➢ $50,000,000 annual energy costs

Resource Efficiency Manager Program

- SEA Energy Steering Committee
  - Determined need for energy program
  - Determined need for REM at District level
  - Central Florida District chosen for Pilot
    - $5.4 million annual energy costs
  - Applied for Pilot Grant from DOE/FEMP
  - Modeled REM after the proven Washington State University/ FEMP program

Resource Efficiency Manager Program

- REM - Resource Efficiency Manager
  - Dedicated full-time to efficient use and conservation of our natural resources
  - Program needs to be self-funding and self-sustaining or it will be axed
  - Typical savings generated by an REM program is 5% of total annual energy costs
    - 5% of 5 million = $250,000

Resource Efficiency Manager Program

- Costs
  - REM Salary and Benefits $ 70,000
  - REM Expenses $ 10,000
  - Contractor support $ 20,000
  - Project Implementation Budget $ 100,000
- Total Program Cost: $200,000
- First year savings: $250,000
- Estimated second year savings: $400,000

Group of Facilities for REM Pilot

- USPS Central Florida District
  - 212 Facilities
  - 3,401,675 square feet
  - $ 5,423,864 FY-2001 energy costs
  - Average ECI is $1.59 per square foot
    - Most efficient facilities are less than $1.00 per square foot
  - $ 1.6 million in savings opportunities

PARTNERSHIPS ESTABLISHED

Fed & State	Private	In-House
U.S. DOE FEMP	Advantek Harding-ESE	Admin Service Maintenance
Washington State University	PML ProAtion Systems	Accounting Info Tech
Florida Energy Office	17 Serving Utility Companies	Postmaster Station Managers

FEMP
U.S. Department of Energy
Federal Energy Management Program

FLORIDA ENERGY OFFICE
DEPARTMENT OF COMMUNITY AFFAIRS

AdvanTek
Consulting Engineering

Harding ESE
A MACTEC COMPANY

PARTNERSHIP IMPORTANCE

- ☐ Partnerships are key to success
  - ➢ Critical need for assistance & cooperation
- ☐ Establish partnership with all *Utility Companies* that service your area
  - ➢ Utility Information and Rebates
  - ➢ Historical Data in Electronic Format
  - ➢ Alternative Rate Structures

PARTNERSHIPS

- DOE - *Federal Energy Management Program* (FEMP) and the *Florida Energy Office (FEO)*
  - Grant funding and support of Pilot Program
- *Harding-ESE* & *Advantek Consulting*
  - Perform comprehensive energy surveys
  - Research new technology for use by REM
  - Technical review and backstopping
  - Grant administration

June 2 -5, 2002

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PARTNERSHIPS with ...

- … TECO Solutions (Utility ESCO)
  - Shared Energy Savings Program
- … Postmasters & Managers in District
  - Did walk through at their facilities
  - Advised them on ways to conserve
  - Ranking reports
    - Encourage Competition for Most Savings
    - Tracking of decrease/increase in energy use

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PARTNERSHIPS with ...

□ … Accounting Personnel
- Have ready access to all bills for all Districts
- Copies of utility statements are for analysis
  - ➢ Helped to solve discrepancies and over charges found on the monthly statements

□ … In House Maintenance
- Use of their knowledge & manpower to implement projects

PARTNERSHIPS with ...

□ … Administrative Services Specialists
- ➢ This office handles new construction and repair & alteration projects
- ➢ They maintain records on facilities
- ➢ In-depth knowledge of facility conditions
- ➢ Existing and Planned Projects

PARTNERSHIPS with ...

- □ … Information Technology
  - ➢ Software compatibility with USPS systems
  - ➢ Provided hardware for REM programs
  - ➢ Established Internet connections for communicating thermostats and meters
  - ➢ Ensured new software worked properly

PROGRAMS IMPLEMENTED

- □ Awareness & Training
  - • "*You Have the Power*" "*Stamp Out Energy Waste*"
  - • *Energy Star*
- □ New Technology
  - • Internet Communicating Thermostats
  - • PML Real-time Energy Monitors
- □ Equipment Upgrades
  - • LED Lamps
  - • Programmable Thermostats

Awareness & Training

- *Energy Star Computers*
  - *$15,000 per year savings*
- *Preventative Maintenance*
- *"You Have the Power" posters*
- *Energy Conservation Measures*

YOU HAVE THE POWER TO

Stamp Out Energy Waste

Money Isn't All You're Saving

New Technology

- Internet communicating thermostats
  - ProAtion Systems software and hardware
  - Five facilities, cost per facility average $2,000
  - Remote access to thermostats via internet
  - Savings - $5,800 ~ $8,400 per year
  - Installed by in-house technicians
  - Payback period: 1.5 to 2 years

New Technology

Internet Communicating Thermostats

U. S. Postal Service
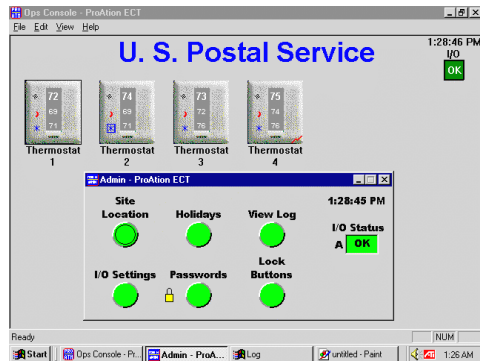
New Technology

□ Utility Meter Monitoring
  ➢ Power Measurement Monitors
    ● 3 Facilities - 5 Monitors
      □ Mid-Florida Processing & Distribution Center
        – 340,000 square feet, $416,000 energy
      □ Orlando Processing & Distribution Center
        – 360,800 square feet, $490,000 energy
      □ Kissimmee Main Post Office
        – 28,000 square feet, $61,800 energy
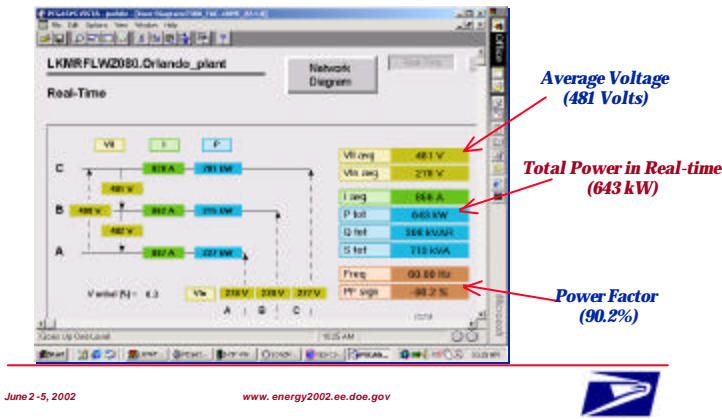   ● Savings - $40,000 per year

*Average Voltage
(481 Volts)*

*Total Power in Real-time
(643 kW)*

*Power Factor
(90.2%)*

New Technology - PML Monitors

- Used outside contractors for installation
- Commissioning & training on equipment by Power Measurement Limited engineer.
- Budget constraints a factor in completing the project.
- Enable us to view usage on a real-time basis and identify savings opportunities

Equipment Upgrades

- Installation of LED dock lights
  - 70-Watt flood lamps vs 1-Watt LED lamps
  - 5 year warranty on LED lamps
  - Large reduction in labor costs
  - Savings - $9,340 per year
- Programmable thermostats
  - Expected savings - $34,000 per year

OBSTACLES ENCOUNTERED

- In-house maintenance versus outside contractors
  - Ensure that your in-house crew has the **manpower** & the **expertise** to do the job at hand & in timely manner
  - Know where your project will fall on their priority list

PROBLEMS ENCOUNTERED

- Information Technology
  - Coordinating with all in-house departments
  - Ensuring software will be allowed by IT
- Provide for Unexpected Expenditures
  - Costs for extra equipment
  - Costs for training

ACCOMPLISHMENTS

- Installation of New Technology
- Savings Achieved
  - Reduction in kWh usage by 6%
  - First year savings of $260,000
- Raised awareness of the importance of resource efficiency & conservation
  - Good for Business
  - Good for the Environment